

CLAIMS

What is claimed is:

- 1 1. A method of detecting removal of a component of an electrical
2 system, comprising the steps of:
3 triggering a detection circuit upon removal of a component; and
4 storing non-volatile data related to when said component was
5 removed.
- 1 2. The method of Claim 1 wherein said component is a hood of a
2 computer chassis.
- 1 3. The method of Claim 1 wherein said electrical system is a
2 computer system.
- 1 4. The method of Claim 1 wherein multiple components can trigger
2 said detection circuit.
- 1 5. The method of Claim 1 wherein the basis of said data is user
2 dependent.
- 1 6. The method of Claim 1 wherein said component is part of a
2 system and the basis of said data is synchronized with said
3 system.
- 1 7. The method of Claim 1 wherein data related to the removal of
2 more than one component can be stored.
- 1 8. The method of Claim 1 further comprising the step of:
2 relaying said data to an administrator.

- 1 9. The method of Claim 1 further comprising the step of:
2 resetting said detection circuit after said storing step.
- 1 10. The method of Claim 1 wherein said data is presented to a user
2 of said component.
- 1 11. The method of Claim 1 wherein said data related to removal of
2 components creates a history file.
- 1 12. The method of Claim 1 wherein said data includes an indicator
2 as to whether it has been acknowledged.
- 1 13. The method of Claim 1 wherein said detection circuit is
2 powered by a battery.
- 1 14. The method of Claim 1 wherein said component is a hot-
2 pluggable device.
- 1 15. A method for detecting loss of power to a portion of a system,
2 comprising the steps of:
3 triggering a detection circuit upon loss of power; and
4 storing non-volatile data related to when said loss of power oc-
5 curred.
- 1 16. The method of Claim 15 wherein said system is a computer
2 system.
- 1 17. The method of Claim 15 wherein said portion is a power supply
2 of a computer system.

- 1 18. The method of Claim 15 wherein multiple portions can trigger
2 said detection circuit.
- 1 19. The method of Claim 15 wherein said detection circuit is
2 powered by a battery.
- 1 20. The method of Claim 15 wherein said portion is a plug-in
2 module.
- 1 21. A method for detecting removal of a component of a system,
2 comprising the steps of:
3 when a component is removed
4 generating a signal;
5 using said signal to stop a clock; and
6 recording the value of said clock.
- 1 22. The method of Claim 21 wherein said signal is an alarm bit.
- 1 23. The method of Claim 21 wherein said clock remains stopped
2 even if said component is replaced.
- 1 24. The method of Claim 21 wherein said recording step does not
2 take place until after said system is powered up.
- 1 25. The method of Claim 21 wherein said value is recorded in a
2 system event log.
- 1 26. The method of Claim 21 further comprising the steps of
2 clearing said signal after said recording step; and
3 resetting said clock after said recording step.

- 1 27. The method of Claim 21 further comprising the step of
2 displaying a warning to the user of the component upon power-
3 on self-test.
- 1 28. The method of Claim 21 wherein multiple components can
2 trigger said detection circuit.
- 1 29. The method of Claim 21 wherein data related to the removal of
2 more than one component can be stored.
- 1 30. The method of Claim 21 wherein said detection circuit is
2 powered by a battery.
- 1 31. A component intrusion detection device, comprising:
2 a component;
3 a switch operatively connected to said component such that the
4 absence of contact between said component and said switch
5 changes the state of said switch;
6 a real time clock and oscillator operatively connected to said
7 switch such that a change of state in said switch can isolate
8 said oscillator from the counter of said real time clock;
9 and
10 memory programmed to read the value of said real time clock.
- 1 32. The device of Claim 31 wherein said real time clock is set by
2 the user of said component.
- 1 33. The device of Claim 31 wherein said component is a part of a
2 system and said real time clock is synchronized with said
3 system.

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1 34. The device of Claim 31 wherein when said switch changes state
2 an alarm bit is generated.

1 35. The device of Claim 31 further comprising
2 a display warning a user of the component of an intrusion upon
3 power-on self-test.

1 36. The device of Claim 31 wherein multiple switches can be
2 connected to said real time clock and said oscillator.

1 37. The device of Claim 31 further comprising non-volatile memory
2 wherein more than one of said value can be stored.

1 38. The device of Claim 31 further comprising a battery to power
2 said component intrusion detection device.

39. A real-time clock and theft detection circuit, comprising:
programmed logic;
non-volatile memory operatively connected with said programmed logic;
real-time clock logic connected with said programmed logic and said non-volatile memory;
at least one input pin connected to receive an intrusion detection signal and connected to said programmed logic;
a switch operatively connected to a component such that the absence of contact between said component and said switch changes the state of said switch; and
a real time clock and oscillator operatively connected to said switch such that a change of state in said switch can isolate said oscillator from the counter of said real time clock;
wherein said programmed logic reads the value of said real time clock and stores said value in said non-volatile memory.

1 40. The device of Claim 39 wherein when said switch changes state
2 an alarm bit is generated.

1 41. The device of Claim 39 wherein said clock remains stopped
2 even if said switch reverts to its former state.

1 42. The device of Claim 39 wherein multiple switches can be
2 connected to said real time clock and said oscillator.

43. The device of Claim 39 further comprising non-volatile memory
wherein more than one of said value can be stored.

1 44. The device of Claim 39 further comprising a battery to power
2 said component intrusion detection device.

1 45. A computer system, comprising:
 2 a chassis with a removable cover, said removable cover provid-
 3 ing internal access to said chassis, said chassis housing
 4 internal components of said computer, said internal
 5 components comprising
 6 one or more microprocessors which are operatively connected
 7 to detect inputs from an input device,
 8 memory which is connected to be read/write accessible by
 9 said microprocessor,
 10 one or more devices for mass storage of data, and an output
 11 device operatively connected to receive outputs from
 12 said microprocessor;
 13 one or more power supplies connected to provide power to
 14 said internal components; and
 15 a detection circuit which stores data related to when said
 16 components or said removable cover is removed.

1 46. The system of Claim 45 wherein said detection circuit is a loss-
 2 of-power detection circuit operatively connected to sense the
 3 presence of input power to one or more of said power
 4 supplies, and which stores data related to when said input
 5 power is removed.

1 47. The system of Claim 45 wherein multiple components can
 2 trigger said detection circuit.

1 48. The system of Claim 45 further comprising a detection circuit
 2 for each component or said removable cover to be monitored
 3 for removal.

1 49. The system of Claim 45 further comprising a multiple switch
2 daisy chain circuit connected to each said component or said
3 removable cover to be monitored for removal.

1 50. The system of Claim 45 wherein said detection circuit is
2 powered by a battery.

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